COMPARABLE DATA OF KNOWN QUALITY: USGS ENVIRONMENTAL DATA-QUALITY ACCEPTANCE CRITERIA

Brooke F. Connor [1] and Peter F. Rogerson [2]

[1] U.S. Geological Survey, Branch of Quality Systems, P.O. Box 25046, DFC, Bldg. 53, MS 401, Lakewood, Colorado, 80225.
[2] U.S. Geological Survey, Office of Water Quality, P.O. Box 25046, DFC, Bldg. 53, MS 401, Lakewood, Colorado, 80225.

Biographical Sketch of Authors
Brooke Connor conducts laboratory approvals for the U.S. Geological Survey and is involved with bi-annual standard reference sample interlaboratory comparisons. Peter Rogerson is the senior chemist for the Office of Water Quality. The authors are interested in the setting of quality control and quality assurance standards and practices, and look forward to the advancements in standardization for the environmental laboratory community.

Abstract
Laboratory accreditation, certification, or approval has been almost prescriptive for general laboratory functions, but important objectives of a particular agency or project often require differing standards and limits of acceptance to which laboratories must adjust. This need can result in a single laboratory requiring a separate audit and separate operational procedures for each state and possibly each customer within the state it services.

Analytical methods for drinking-water analyses set laboratory quality-control limits at levels that will statistically control laboratory output parallel to the decision-making needs of the customer. For example, using a wastewater analytical method to provide data for a drinking-water project is inappropriate because it will not control the method and resulting environmental data to the degree determined to protect human health. Even with the current tremendous effort to standardize environmental laboratory accreditations, acceptance criteria for the different drinking water or wastewater monitoring programs, and for ambient water-quality monitoring programs, will remain different as long as the objectives are different. The incorporation of performance-based methods is an approach that will allow laboratories to use analytical methods of choice, as long as performance is within predefined limits. The USGS is in agreement with this approach.